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DEPARTMENT OF NATURAL RESOURCES

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TO: *The Board of Oil Gas and Mining*

THROUGH: Dana Dean, Associate Director – Mining

THROUGH: Paul B. Baker, Minerals Program Manager

FROM: Peter Brinton, Engineer

SUBJECT: Proposed 2017 Per-Acre Reclamation Surety Amounts for Exploration Projects and Small Mining Operations

Title 40 Chapter 8 Section 14 1(c) of the Utah Mined Land Reclamation Act requires that the Division determine the amount of surety required for notices of intention using cost data from current large mining sureties. Rules R647-2-111.3 and R647-111.3 require the Minerals Regulatory Program to determine small mine and exploration project reclamation surety amounts based on site-specific reclamation cost calculations, or from estimates of average costs per acre for reclamation of similar operations, as determined by the Division, based upon approved surety amounts for current large mining operations. These average costs must be approved by the Board of Oil, Gas and Mining. This memorandum details the amounts recommended to the Board for the average costs to be used for small mines and exploration projects.

Small mine sites are areas with ten or fewer acres of disturbance in unincorporated areas or five or fewer acres in incorporated areas. For the purpose of calculating the cost per acre, the Division assumes there are no structures, that earthwork and revegetation will be required for each site, and earthwork and revegetation will be conducted at the same time, not in separate operations.

If a site has structures, including vent shafts or portals, the cost of structure removal will be calculated as a line item using costs from the Abandoned Mine Reclamation Program. Sites with unusual features, such as large underground openings, are calculated based on information from vendors and other sources, such as the Abandoned Mine Reclamation Program.

For mine sites with five or fewer acres, the Division assumes that all reclamation work can be accomplished with an excavator and a pickup truck for support. For sites larger than five acres but smaller than ten acres, the Division assumes reclamation will require an excavator and a bulldozer with a pickup truck for support.



For sites where the earthwork portion of the reclamation surety has been released, the Division assumes that surface preparation will be needed.

The reclamation cost estimates are escalated three or five years into the future for small mines. The escalation factor is averaged using five years of national average index values from R.S. Means' Historical Cost Index. Costs for exploration projects are escalated one year into the future and re-evaluated if an operator requests an extension for the project.

In the past the Division assumed a 150-mile mobilization/demobilization cost. Beginning in 2014, the Division has allowed the mob/demob cost to be decreased to a minimum of 50 miles if there are at least three contractors that could conduct reclamation based within 50 miles of the site. The mob/demob costs should be increased as shown in the tables if the haul distance is greater than 50 miles.

Additional mobilization for a dozer is added for small mines with over five acres of disturbance.

Exploration Projects

Project Size / Features	2017 Standard Surety Requirements	Comments
	1-year escalation (thru November 30, 2018)	
1 Acre or Less	\$7,200 per acre	Minimum amount required; Includes \$2,575 mob/demob
Additional Acres (no limit)	\$4,600 per acre	Partial acres rounded to next acre (e.g. 1.2 acres = 2 acres)
Drilling (dry)	\$1,000 mob/demob, plus \$210/hole (surface plug)	In addition to costs for surface reclamation
Drilling (wet), < 7-inch diameter, < 2,500 feet depth	For holes less than 800 feet deep, \$8,000 mob/demob, plus \$5.00/ft for plugging costs	In addition to costs for surface reclamation
	For holes 800 - 1,600 feet deep, \$12,000 mob/demob, plus \$5.50/ft for plugging costs	
	For holes 1,600 - 2,500 feet deep, \$16,000 mob/demob, plus \$6.00/ft for plugging costs	
Drilling, > 7-inch diameter, > 2,500 feet depth, Unusual conditions (e.g. oil- and/or gas-bearing strata).	The Division may request a third-party estimate.	In addition to costs for surface reclamation
Portal	\$2,000 each (unless site-specific conditions justify another amount)	In addition to above costs
Shafts	\$3,000 each (unless site-specific conditions justify another amount)	In addition to above costs
Structures, Large Portals, Large Shafts	Site-specific	In addition to above costs
Additional Mob / Demob	For < 50 miles (one way) - no additional cost For 51 to 100 miles (one way) - add \$1,300 For 101 to 150 miles (one way) - add \$2,500 For 151 to 200 miles (one way) - add \$3,800	In addition to costs for surface reclamation

Small Mining Operations – Five or Fewer Acres (Excavator)

Mine Size / Features	2017 Standard Surety Requirements	Comments
	3-year escalation (thru April 2020) 5-year escalation (thru April 2022)	
1 Acre or Less	\$7,200.00 (3-year escalation)	Minimum amount required; Includes \$2,575 mob/demob
	\$7,200.00 (5-year escalation)	Includes \$2,575 mob/demob
Additional Acres (<5 total acres)	\$4,600 per acre (3-year escalation) \$4,600 per acre (5-year escalation)	Partial acres rounded to next acre (e.g. 1.2 acres = 2 acres)
Cumulative Amount (5 Acres)	\$25,600 (3-year escalation) \$25,600 (5-year escalation)	No difference between 3- and 5- year amounts for 5 acres.
Portal	\$2,000 each (unless site-specific conditions justify another amount)	In addition to above costs
Shafts	\$3,000 each (unless site-specific conditions justify another amount)	In addition to above costs
Structures, Large Portals, Large Shafts	Site-specific	In addition to above costs
Additional Mob / Demob	3-year escalation: For < 50 miles (one way) - no additional cost For 51 to 100 miles (one way) - add \$1,300 For 101 to 150 miles (one way) - add \$2,500 For 151 to 200 miles (one way) - add \$3,800	In addition to costs for surface reclamation
	5-year escalation: For < 50 miles (one way) - no additional cost For 51 to 100 miles (one way) - add \$1,300 For 101 to 150 miles (one way) - add \$2,500 For 151 to 200 miles (one way) - add \$3,800	

Small Mining Operations – Five to Ten Acres (Excavator & Dozer)

Mine Size / Features	2017 Standard Surety Requirements	Comments
	3-year escalation (thru April 2020) 5-year escalation (thru April 2022)	
6 acres	\$33,900.00 (3-year escalation)	Minimum amount required; Includes \$5,608 mob/demob
	\$33,900.00 (5-year escalation)	Includes \$5,608 mob/demob
Additional Acres (<10 total acres)	\$5,300 / acre (3-year escalation) \$5,300 / acre (5-year escalation)	Partial acres rounded to next acre (e.g. 5.2 acres = 6 acres)
Cumulative Amount (10 acres)	\$55,100 (3-year escalation) \$55,100 (5-year escalation)	No difference between 3- and 5-year amounts for 10 acres.
Portal	\$2,000 each (unless site-specific conditions justify another amount)	In addition to above costs
Shafts	\$3,000 each (unless site-specific conditions justify another amount)	In addition to above costs
Structures, Large Portals, Large Shafts	Site-specific	In addition to above costs
Additional Mob / Demob Costs	3-year escalation: For < 50 miles (one way) - no additional cost For 51 to 100 miles (one way) - add \$1,500 For 101 to 150 miles (one way) - add \$3,000 For 151 to 200 miles (one way) - add \$4,600	In addition to costs for surface reclamation
	5-year escalation: For < 50 miles (one way) - no additional cost For 51 to 100 miles (one way) - add \$1,500 For 101 to 150 miles (one way) - add \$3,000 For 151 to 200 miles (one way) - add \$4,600	